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Conceptual Contributions of Kantor's Interbehavioral Psychology

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Kantor's interbehavioral psychology may be characterized by its conceptual emphases upon (a) naturalism, (b) scientific pluralism, (c) organism-environment interactions, and (d) integrated event fields of continuously interrelated and interrelating factors. Despite differences between Skinnerian and Kantorian classification schemes, the conceptual features of interbehaviorism are compatible with those of Skinner's behaviorism, and taken together the two provide a firm theoretical foundation for an authenticially behavioristic psychology.

As Schoenfeld (1969) has noted in his retrospective appreciation of Kantor's work, "Sometimes when the work of a man of scholarship and intellectual daring plunges ahead of the learned community he is addressing, it does not immediately receive the honor it deserves. Instead, as it blends unmarked into the scholarly landscape, it becomes somehow taken for granted. Something like this has happened to the writings of J. R. Kantor" (p. 329). Kantor's conceptual contributions to a science of behavior are not generally appreciated, even among the large majority of behavior analysts. Again, Schoenfeld comments: "he was a breaker of intellectual chains inherited from the past and a clearer of intellectual paths into the future; he could detect an incorrect direction, and point to the one to take. He was a critic and an analyst; he could see what was to be avoided, and what to be done. He was a summoner to work and an architect of ideas; but, while he might hint at how something was to be done, he too infrequently went on to do it himself .... He invented no devices, recorded few numbers, drew no graphs, used no statistics, programmed no computers, demonstrated no animal performances, beguiled with no anecdotes. All this he left to his readers" (p. 330). Kantor called his position interbehaviorism, presumably to distinguish it from the classic S-R behaviorism that was dominant in the second quarter of the century. Yet, he offers his readers much more than simply a quaint new vocabulary. He offers insight into an understanding of what science means, what a science of behavior means, and how one might orient oneself toward making scientific contributions. As Verplanck (1983) has noted, these insights might be expressed in the context of four important conceptual contributions derived from the work of Kantor: (a) naturalism, (b) scientific pluralism, (c) the recognition that the subject matter of psychology is the interaction between organisms and stimulus objects, and (d) his rejection of traditional, linear, antecedent causal formulations in lieu of an integrated event field. We may now turn to a brief discussion of each of these contributions, in an attempt to acknowledge their significance with respect to an understanding of behavior.

NATURALISM

Of all conceptual emphases, probably none is more basic to interbehaviorism than one of naturalism. As Kantor (1950) says, "our universe consists of nothing but our natural habitat plus our civilizational artifacts" (p. 321). Insofar as no scientist has even investigated anything other than an event in which various factors come together in space and time, our accounts of such events must be couched in factors derived from spatiotemporal factors. Of course, scientists engage in

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construction. However, as Kantor (1938) put it, all constructions must "be connected with the primary data or events by a substantial link of observation and observational procedure. The exigencies of scientific work may be such as to attentuate the thread binding the construction with events to a very thin calibre. But it is an established maxim that this thread can never be broken" (p. 12).

The non-naturalistic approach is known by many names: mental, psychic, supernatural, transcendental, and lately, cognitive. Distinctions concerned with subjects and objects, with reality and appearance, with internal and external worlds, with facts and values, are similarly products of non-naturalistic concerns. For Kantor, there is no difference among any of these terms; they are all indicative of dualism and of attempts to smuggle spooks into psychology. What was the origin of this practice? The origin was to be found in the historical development of psychology. Any scientist studying any subject matter has always been embedded in a social-cultural matrix of influences that defines problems and procedures for addressing them. In psychology, owing to the pervasive influence of philosophical and theological institutions, the tendency has been to attempt to insulate these social-cultural preconceptions, rather than critically examine them for their authenticity. Thus, psychology has been afflicted with a disastrous bifurcation of its subject matter, a bifurcation that is to be staunchly opposed on each occasion it is detected.

For Skinner, the origin of mentalism lies in a primitive animism that has existed since the days humans lived in caves; the Greeks and others since have perpetuated the mentalistic doctrines, and it has now become virtually instictive, owing to this lengthy tradition, to look inside for a cause of something outside. Kantor's analysis of the problem is slightly different, although it ends up at the same place. For Kantor, the problem began after the Greeks and Romans, with the decline of civilization in the period 400–500–600 A.D. Various theological influences stepped in, with the consequence that Plotinus, Augustine, Aquinas, Descartes, Locke, Newton, Liebniz, Berkeley, and eventually Kant institutionalized the dichotomization of nature. Regardless, for Kantor and Skinner the traditions and methods of science have been corrupted in pursuit of mentalistic doctrines to the detriment of a science of behavior. A truly naturalistic, behavioristic psychology has yet to come into preeminence within the culture.

SCIENTIFIC PLURALITY

Science in general is an enterprise for ascertaining the structure, operation, and interrelation of things and events. The activity we call science is to be taken as continuous with any other activity in which we engage. Moreover, the knowledge derived from scientific endeavors is not to be held superior in quality to knowledge produced by any other means. All too often theorists hold that the procedures of science are somehow better because they map better onto the underlying mental processes responsible for knowledge. The interbehaviorist argues that the basic assumption is false; there are no underlying mental processes responsible for any kind of knowledge, scientific or otherwise. The methods of science may be more useful in that they promote more effective contact with the world, but not because they better reflect some aspect of psychological functioning. To argue that the methods of science are superior because they somehow reflect an underlying psychological process responsible for knowledge acquisition is an unfortunate legacy of our dualistic cultural heritage, ultimately traceable to notions of a rational soul as the seat of knowledge.

Moreover, the sciences deal with selected subject matters and are not reducible. There is no one underlying science that is propaedeutic to others, and in particular, psychology is not reducible to physiology. Doctrines that the brain is the cause of behavior are to be opposed just as resolutely as are doctrines that the soul is the cause of behavior. The brain is involved as a component in behavior,

but is not appropriately identified as a causal agent in behavior.

This is not to say that there are no common features among the sciences, but rather that the common features should not be taken as indicative of a reductionistic position on subject matter. Scientists investigate the existence of events, they investigate the nature of events, they perform operations in the form of experiments, they investigate interrelations among factors participating in events, and they formulate relations among those factors in the form of laws, theorems, equations, and so on. No scientist has even done more, not because there is more to be studied that is beyond the reach of science, but because there is nothing more to be concerned about.

INTERBEHAVIOR

The subject matter for psychology is interbehavior. Stimulus objects are to be emphasized as much as responses. In Kantor's notation, there is a bidirectional arrow between S and R to indicate the reciprocal exchange between stimulating environment and behaving organism. In physics, there is a simple exchange of energy between two entities. In biology, one entity receives stimulation from another in a way that entails more than just a commutative exchange of energy. In psychology, interactions are differential, integrative, variable, modifiable, delayable, and inhibitive (e.g., Kantor and Smith, 1975, p. 8), in ways that interactions pertaining to physics or biology are not. Psychological events depend upon a preceding history of interaction, called the reactional biography. Indeed, Kantor and Smith (1975) sum up the principle of modifiability by noting that "the successive contacts of an organism with objects culminate in the development of new modes of interactions based on the results or conditions of prior contacts" (p. 10).

Interbehavioral events involve the whole organism and are inappropriately fractionated. Sometimes responses may be implicit, orientational phenomena, but they are nevertheless of behavioral ilk. Attention and perceptual interactions are not psychic processes but rather are continuous with other forms of interbehavior, in that they originate via direct contact with things and promote adjustment with respect to the world of stimulating objects.

Language too is a behavioral phenomenon. Matters of phonology, morphology, syntax, and semantics are behavioral matters. Furthermore, language and logic are clearly linked as behavioral phenomena. They are linked not because language somehow reveals ultimate, universal, transcendental categories, either logical or grammatical in nature, but rather because logic is a system-making endeavor that is carried out in the context of language by real people. Logic is not to be viewed as a superordinate, disembodied system that operates above and beyond behavioral laws, of which observable behavior is mere evidence. Rather, logic is a particular, specific human enterprise that operates in a particular, specific frame of reference.

INTERBEHAVIORAL FIELDS

According to an interbehavioral position, the appropriate analytical framework for any science is a field of participating factors. Accordingly, it is distinctly inappropriate to cast an event in terms of one factor that causes an event to occur. The way is then open for specious forces and powers to enter into the picture. What is of concern is how the constituent factors of things, their properties, and their conditions are initially organized in an event situation and then how they come to be rearranged in the event field. To be rejected are traditional mechanistic, push-pull modes of explanation, as well as classical deterministic systems.

Furthermore, all science is inevitably probabilistic, based upon the precision of our contact with the factors constituting the event field. We may have limited knowledge of those factors, or the conditions of the participating factors may themselves be undergoing change. Accordingly, we are conspicuously limited

in the scope of our statements. As we identify more precisely the factors in the field, the less probabilitic we need to be in our statements of the relations we observe. In any case, it is distinctly inappropriate to characterize our statements as certain because they follow from some infallible logical system; such a position is derived from transcendental assumptions of an underlying soul or mind responsible for knowledge, as in the systems of Descartes or Kant.

With special reference to psychological events, the appropriate analytical framework is the event field called the interbehavioral segment. Behavior itself is a continuous process, but psychologists may examine just one portion of it. To deal adequately with the event, psychologists need to know at least the following five things about the intervehavioral segment: (a) the behavioral history of the organism, (b) the medium by which the organism makes contact with the object of current interest in its environment, (c) the function that the stimulus object has in the organism's life, (d) what the response achieves in the organism's life, and (e) any general, contextual, background factors relevant to a particular interaction. As previous analyses have noted (e.g., Morris, 1982), there is some similarlity to the conceptual schemes employed by other behaviorists who use such terms as classes of stimuli that exert stimulus control, response-reinforcer contingencies, reinforcement histories, and so on. Such distinctions as between operants and respondents by other behaviorists are fully accommodated in interbehavioral psychology by differences between stimulus functions and response functions. Indeed, the notion of reactional biography includes both the operant and respondent history of the organism, rather than only its history of reinforcing and punishing events.

The treatment of behavioral events in terms of fields of interacting factors prevents even the inadvertant invocation of specious forces and powers and the inappropriate formulation of principles that exist only by dint of human linguistic manipulation. Behavior is not to be studied because it is the vehicle by which to pursue another topic, namely, the organocentric entity that is presumed to be the "real cause" and of which the behavior is a mere manifestation. Rather, interbehavior is all there is to study. The terms that many behaviorists find convenient to use, such as operant, respondent, reinforcement, and so on, are not terms in Kantor's vocabulary. The omission is not one of oversight, but is rather systematic. The terms are burdened in Kantor's estimation by subjective powers and forces, by satisfiers and annoyers, and by their connotation of mentalistic ways of thinking. Whether or not the terms are so burdened is a matter worthy of considerable attention, especially among behaviorists who tend to reify the process of reinforcement as a thing having some sort of mystical power to strengthen responses that have already occurred. Kantor's point is not that the matters identified by persons who use the terms operant, reinforcement, and so on are undeserving of analysis, but rather that these events should not circumscribe the domain of events to be studied and the discriminations we make when we analyze them.

SUMMARY AND CONCLUSIONS

For Kantor, the world of events was a homogeneous plenum to be approached without preconception or commitment to absolutist dogma of any kind. Human behavior was conditional, that it is, it depended upon how factors came together in particular event situations. Throughout the interbehavioral approach was the rejection of behavior as indicating the operation of intra-organismic faculties, powers, and forces, not because such issues were beyond the reach of science, but rather because talk of such issues was attributable to historical influences in our largely dualistic culture.

Kantor was a natural scientist, and resolutely expounded his position for nearly 75 years. He leaves behind neither artifacts nor technology, but rather stimulus control in the form of guiding assumptions. Verplanck (1983) has noted that for Kantor, Aristotle was the first natural

scientist, he (Kantor) was a second, and Skinner might be the third. Although the similarities between Kantor and Skinner seem to outweigh their differences, they never reached the kind of professional compatibility that appeared originally possible. As is often the case with two intellectual giants, each seemed content to go his separate way. It is somewhat difficult to specify the reasons for an attraction to intervehaviorism. Clark Hull named no Kantor box; Kantor himself published only one experimental study. Perhaps therein lies the basis for the greatest contribution of all: a supremely systematic orientation that facilitates an abstract understanding of behavioral events.

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